

INFORMATION SHEET

ORDER NO. R5-2007-XXXX
COMPOST SOLUTIONS INC. AND ROAD 27 LIMITED PARTNERSHIP
COMPOST FACILITY
GLENN COUNTY

Compost Solutions Inc. owns a green waste composting facility in Glenn County. The facility is located approximately four miles south of Orland in Section 12, T21N, R3W, MDB&M. The property (Assessor's Parcel Number 024-030-031) is owned by Road 27 Limited Partnership. Compost Solutions Inc. submitted a 24 February 2006 Report of Waste Discharge (RWD) for the creation of a green waste composting facility on 28 acres that will produce approximately 30,000 tons of compost annually. Compost Solutions Inc. and Road 27 Limited Partnership are hereafter jointly referred to as Discharger.

The Discharger proposes to compost from April 1 to October 31 on approximately 21 acres of the site. The compost will be spread into windrows approximately 16- to 18-feet wide, six-feet deep, and up to 1,000-feet long. The site has capacity for approximately 20 rows or roughly 50,000 loose cubic yards (approximately 12,000 tons of finished compost per batch). The facility will implement the guidelines set by the National Organic Program. Therefore the compost will have a starting Carbon-Nitrogen ratio of between 25:1 and 40:1, maintain a temperature between 131 and 170 degrees Fahrenheit for a minimum of 15 days (rows are turned a minimum of five times), and maintain an optimal moisture content. Each row requires two weeks at the desired temperature and a minimum of three weeks of composting time, during which each row will be turned every three to seven days. Approximately two-and-a-half months are required for each batch of compost; the Discharger proposes to process two batches during the operating season and to compost without the production of leachate.

Two types of compost will be made at the facility, one that uses manure and one that does not. Windrows that will receive manure will be marked with evenly spaced ticks upon which loads of manure will be placed. Trucks delivering green material will be directed to the composting pad where they will dump their load at the end of a row. The dumped green material will be formed into a windrow. Gaps will be left between different batches of compost in the same windrow. If all windrows are formed, trucks delivering green material will be directed to dump in the feedstock storage area (a three acre area at the southwest corner of the site). The term "feedstock" includes green material, manure, and dairy bedding. Additives will be either placed in a row on the pad prior to the feedstock and incorporated into the feedstock during forming, or spread on top of the formed row and incorporated during tiling. Finished compost will be screened to remove oversized material and stockpiled for shipment. Composting equipment will be washed on a portable washdown pad constructed of heavy duty plastic to contain wash water. The wash water will be allowed to evaporate or used as an additive for the compost. The wash water will not discharge directly to ground surface.

Green material will consist of green waste from municipal and/or commercial collection operations and wood chips from local orchards. The Discharger also proposes to accept agricultural commodities, including dairy manure and bedding from local dairies. Other additives to be mixed with the feedstock or active compost will include water, clay, co-generation wood ash, bone char (high calcium and phosphorus content), potassium sulfate, and dry urea. The additives may be added up to the specified percentages by weight:

co-generation ash (5%), bone char (10%), potassium sulfate (10%), and dry urea (5%). Post-composting amendments may include fertilizers and/or lime and gypsum to adjust the pH. The addition of post-composting amendments will be added prior to sale and tailored to the buyer's specifications.

During the non-operating season, finished compost, manure, and co-generation ash may be stored on site. The compost, manure, and co-generation ash will be placed in a 'bunker' constructed of 1,000-pound straw bales and lined and covered with plastic sheeting. The bottom liner will be covered with approximately six inches to one foot of soil. The soil barrier will prevent the sheeting from tearing during turning and removal of the stored materials. The sheeting covering the piles will be weighted with sandbags or tires in a grid pattern to prevent wind damage. During dry weather periods, the stored materials will be turned to prevent excess heat build-up, and then recovered. Manure must contain no more than 50 percent moisture by weight for acceptance at the facility.

The upper one foot of soil in the pads (composting and storage) will have a permeability of no greater than 5×10^{-6} cm/sec. The existing soil will be ripped, moisture conditioned, and re-compacted to 90% of maximum dry density. The soil will be compacted by (1) clearing the roots and vegetative material, (2) ripping and cross-ripping or disking the upper twelve to fourteen inches, (3) conditioning the soil to 1% to 3% above optimum moisture content, (4) placing the soil in maximum eight-inch lifts (5) compacting the soil with a self-propelled pad-foot or towed sheep's foot, (6) smoothing the surface with a grader, and (7) smooth-drum rolling the surface. To verify remolded permeabilities, one proctor curve and one four-inch undisturbed permeability test (EPA 9100, or equivalent) per every soil type of soil encountered (minimum of two) and one proctor curve per every week of compaction work or every 50,000 cubic yards of soil compacted (minimum of one curve per every 4.6 acres) will be performed. Soil density and moisture will be tested by a soil-testing technician using the nuclear-gauge method (ASTM D2922/3017). Testing at a frequency of one test per every 0.5 acres compacted is required.

The area in which the composting will occur is located from one to 10 feet above the surrounding terrain, therefore, there is no run-on. The completed facility will drain 0.1% to the east and 0.2% to the south. Average annual rainfall at the facility is 19.42 inches. The average potential evaporation is 52.08 inches per year. Depth to groundwater in the vicinity of the site is estimated to be approximately 15 feet below ground surface (bgs) during a wet winter and over 40 feet bgs during the summer. Groundwater flow is generally to the southeast at an approximate gradient of 0.0017 feet/foot. Groundwater was sampled from a well approximately two miles northwest of the site. Depth to groundwater was unknown. Most parameters were within water quality goals, however, results indicated elevated levels of nitrate (31 mg/L). The source of the elevated nitrate is unknown but may be due to agricultural practices in the area. It is not anticipated that the proposed operation will contribute to the elevated nitrates because of the safeguards proposed in the RWD (compaction of pads to 5×10^{-6} cm/sec; composting during the dry season; composting without the production of leachate; installation and monitoring of groundwater monitoring wells; and storage of finished compost, manure, and co-generation ash in lined/covered bunkers during the wet season).

The Discharger proposes to install three groundwater monitoring wells at the facility, two downgradient and one upgradient, and to sample each well quarterly for the first year and semi-annually thereafter.

Agricultural ditches and seasonal ponds that ultimately drain to the Colusa Basin Drain surround the site. The beneficial uses of the Colusa Basin Drain designated by the Basin Plan are agricultural supply; contact recreation; canoeing and rafting recreation; warm water habitat; cold water habitat (potential use); warm migration; warm spawning; and wildlife habitat.

Storm water discharge from the site will increase after construction of the storage and composting pads due to increased impervious area. To control storm water discharge, four-acres of vegetative filter strips, a gravel berm, and a soil berm will be installed. The purpose of the gravel berm is to decrease the velocity of storm water on the site and to control the discharge of storm water from the site. The berm will be located in the southeastern portion of the site. It will be constructed to a height of one foot and a total length of 525 feet, at an angle perpendicular to storm water flow at the site. The soil berm will extend 200 feet to the north of the gravel berm (on the east end); 200 feet is the calculated backup of storm water due to the gravel berm during a 100-year 30-minute storm event. The purpose of the soil berm is to contain excess runoff that is detained by the gravel berm. Grass will be planted in the vegetative filter strip areas. The grass will serve as a filter strip, which will slow the runoff velocity and filter any sediment or nutrients that may be present in the storm water. A filter strip will run along the eastern border of the site (minimum of 20-feet wide). The southeastern portion of the site will also have a large vegetative filter strip on approximately 3.5 acres. The pre-construction storm water peak discharge rate is 23.20 cubic feet per second (cfs). The post-construction storm water peak discharge rate will be 32.98 cfs. The gravel berm will reduce the storm water runoff velocity by 11.89 cfs if the permeability of the berm is no faster than 1.73 cm/sec.

As allowed by Water Code Section 13269, the Regional Water Board formerly regulated green waste composting facilities under Resolution No. 96-031 *Conditional Waiver of Waste Discharge Requirements for Composting Operations* (hereafter waiver). In 1999, passage of Senate Bill 390 modified Water Code Sections 13269 and 13350 to sunset all existing waivers of WDR as of 1 January 2003.

Staff of the Regional Water Board have prepared draft tentative general Waste Discharge Requirements (WDR) for green waste composting facilities; however, it is currently under internal review and has not yet been considered for adoption. Since the proposed facility is new, a RWD had not been previously submitted to the Regional Water Board for coverage under the waiver, and since general WDR for green waste composting do not yet exist, individual WDR have been written for this facility. In preparing this Order, the language in the draft tentative general WDR has been considered. This Order has been written to be as consistent as possible with the requirements of the draft tentative general WDR so that if and when they are adopted by the Regional Water Board, this facility can elect to apply for coverage under the general order if they meet its specifications. Findings in this order related to waste classification and the applicability of the Title 27 to a green waste composting facility

are based on those in the draft tentative general WDR. If the State Water Board and/or Regional Water Board ultimately finds that Title 27 is applicable to green waste composting facilities, then changes to waste containment features may be required at this and other existing green waste composting facilities and these WDR may be rescinded and a new order incorporating Title 27 requirements adopted for this discharge. Some of the requirements of this Order are more stringent than those in the draft tentative general WDR. This is due to site-specific considerations as well as proposals by the Discharger in the RWD. For instance, the RWD proposes installing groundwater monitoring wells and compacting the upper one foot of soil in the composting and storage areas to a permeability of no faster than 5×10^{-6} cm/sec.

The Discharger has proposed many safeguards, including but not limited too, compacting the composting and storage pads, composting only during the dry season, and composting to minimize generation of leachate. Therefore maintaining compliance with these WDR will result in compliance with the antidegradation analysis. The Facility is of benefit to the State because a large portion of the materials that will be composted would otherwise be disposed of in a landfill. The antidegradation analysis and best practicable treatment and control are discussed in detail in the WDR.

5/7/07
JMM: sae